

Appendix H

PINEDALE ANTICLINE EMISSIONS SOURCES ANTICLINE CREST SCENARIO

H.0 Emissions from PAP Sources - 700 Well Scenario Concentrated Along Anticline

A new scenario has been proposed for the Pinedale Anticline Project (PAP). The emissions and distribution of emissions for modeling under this scenario are presented herein. This scenario differs from the primary scenario presented in the Air Emissions Inventory Technical Report, May 1999, only in the distribution of PAP wells. Emissions estimates for the PAP sources are not revised under this scenario. (Please refer to Section 2.0 of the May 1999 report for emissions from PAP sources.) In addition, the emissions from and locations of other NEPA projects, WOGCC wells, and permit actions within the study boundary do not change. (Please refer to Sections 3.0 and 4.0 of the May 1999 report for details on these emissions.) For this scenario, the PAP wells are concentrated along the axis of the anticline and in three additional 3 kilometer by 3 kilometer off-axis regions to the northeast of the anticline axis. (See Figure H.1.)

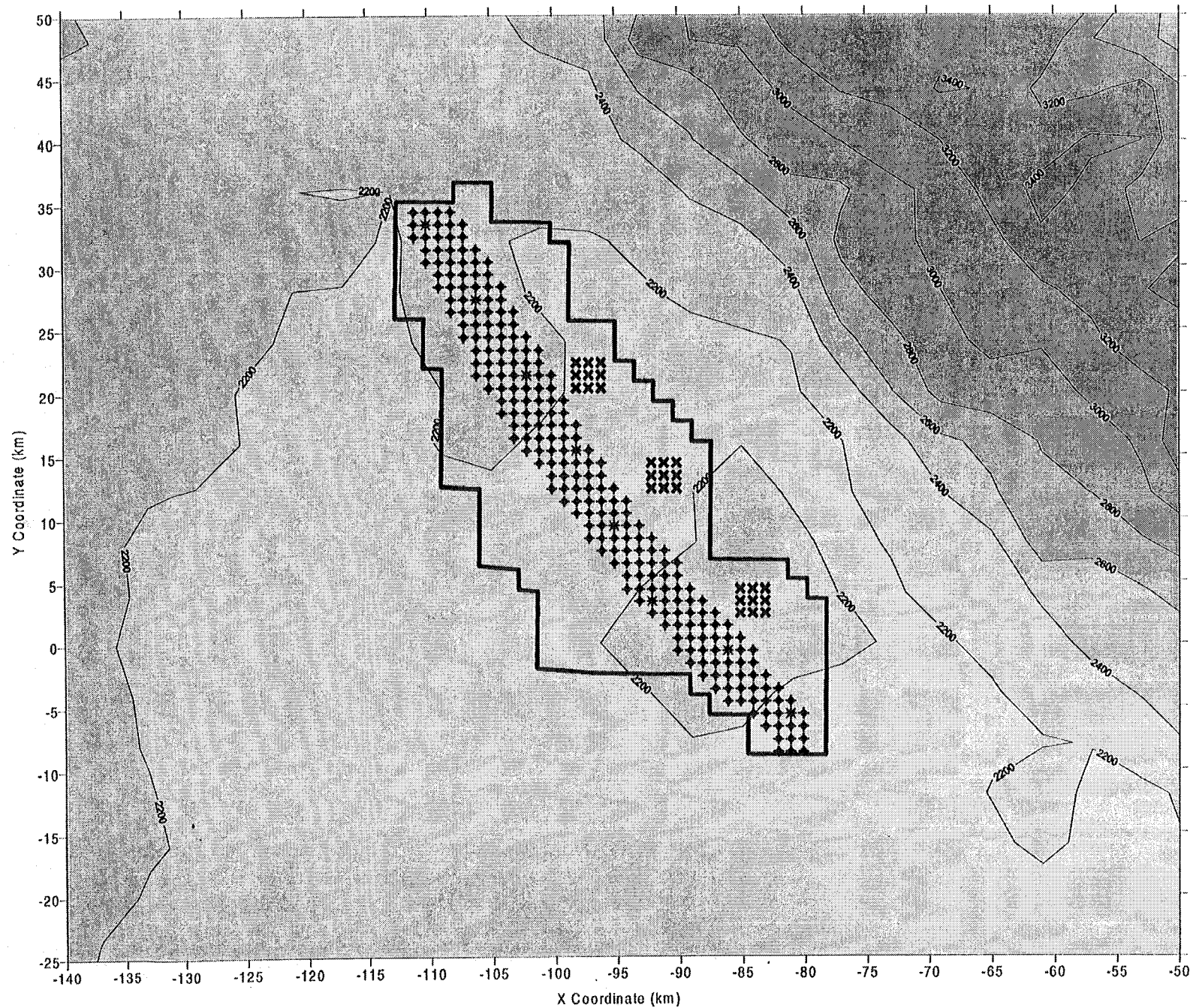
H.1 Distribution of Construction Emissions for Modeling

Because the exact locations of the construction sources are not known, and the emissions sources are diffuse by nature, emissions from construction activities are treated as area sources in the CALPUFF modeling. For the short-term averaging periods (i.e., using short-term emission rates), emissions from well construction (assuming eight wells are under construction at any one time) are distributed into eight separate grid cells along the axis of the PAPA (approximately 7 kilometers apart), as shown in Figure H.1. This distribution is identical to the distribution assumed in the original scenario.

For the long-term averaging periods, emissions from well construction (assuming 90 wells are constructed per year) are spread evenly over the region of well development, which has been modified in this scenario to a concentrated region along the axis of the anticline and three off-axis regions to the northeast of the anticline axis. Note that under this scenario, the off-axis regions (i.e., 3 kilometer by 3 kilometer regions northeast of the anticline) have the same construction density as the region along the anticline axis. This distribution is also illustrated in Figure H.1.

H.2 Distribution of Production Emissions for Modeling

Because the exact locations of the well heads are not known, and the emissions sources are diffuse by nature, emissions from production are treated as area sources in the CALPUFF modeling. For both the short-term and the long-term averaging periods, emissions from 550 of the producing wells are distributed evenly over a region of the PAPA located along the anticline axis. Emissions from the remaining 150 wells are distributed evenly among three 3 kilometer by 3 kilometer regions of increased density (approximately six producing wells per square kilometer). The sources are represented as 1 kilometer by 1 kilometer area sources. Combustion emissions from the heaters, as well as erosion emissions, are calculated, and therefore distributed, on a per-well basis (see Sections 2.2.5 and 2.2.6 of the original emissions report). Emissions from dehydration and flashing, and associated flaring, are calculated on a field-wide basis only. (Note that under this scenario, the off-axis regions (i.e., 3 kilometer by 3 kilometer regions northeast of the anticline) are not areas of elevated gas and oil production rates.) Figure H.1 illustrates the assumed locations of the production emissions, which are the same for both short-term and long-term averaging periods.



- X Hot Spots**
 For distribution of production emissions, 150 wells are distributed evenly among these grid cells.*
- ◆ Wells Along Anticline Axis**
 Region of wells along axis of anticline.
 For distribution of production emissions, 550 wells are distributed evenly over this region.*
- * Construction Wells - Short-Term**
 *Long-term construction emissions (90 wells) are distributed evenly over the grid cells in the hot spots and the grid cells along the axis of the anticline.

**FIGURE H-1
 LOCATION OF CONSTRUCTION
 AND PRODUCTION WELLS FOR
 MODELING**



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